difference in the hybrid is that the pattern has been shown to be constant, persisting into adult full plumage.

We consider that the neck ring, cheek crescents and colour of the sides of the head and neck are all ancestral characters revealed by gene recombination in the hybrid state. The white neck ring is further evidence in confirmation of Delacour's opinion (1956) that the Shoveler species group has affinities with the Mallard. The last two characters indicate the close affinities between the three Shoveler species inhabiting the Holarctic area, South America and Australasia respectively.

This only leaves the one other Shoveler species, the Cape Shoveler *Anas smithi* (Hartert) of South Africa and it is noteworthy that Winterbottom and Middlemiss (1960) consider that *clypeata* and *smithi* diverged before the latter had evolved a marked sexual dimorphism, and that *smithi* has probably remained close to the ancestral form from which *clypeata* evolved.

This hybrid therefore provides further striking evidence that the Shoveler species have arisen, not by parallel evolution in widely separated parts of the world, but by a single distinct line of evolution (Delacour's "Blue-winged Ducks") within the genus *Anas*, and with close affinities to the Mallard. The "bimaculated" face pattern revealed in the other two hybrids in which the Northern Shoveler was involved is probably even more ancestral, the crescent being a part of this character, which has become dominant in some forms.

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Notes on African Estrildinae

by C. M. N. White

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The present notes have been prepared whilst revising the African waxbills for the final section of my revised Check List of African passerine birds. I prefer to keep the waxbills as a subfamily of the *Ploceidae*, and not to raise them to full family status as Steiner has proposed should be done.

1 *Hypargos niveoguttatus* (Peters)

The nominate form in which females have a brown throat and breast are clearly distinct from *macrospilotus* in which females have a red throat and breast, as Clancey has claimed. Nominate *niveoguttatus* ranges from southern Mozambique to eastern Southern Rhodesia on the plateau, but not into the Zambezi valley where *macrospilotus* occurs. The latter occupies the rest of the range, and I cannot confirm the claims of any of the three additional forms proposed by Clancey.

2 *Pirenestes ostrinus* (Vieillot)

I regard all the forms of *Pirenestes* as conspecific since they only differ basically in the degree of melanin in the plumage with black replaced by brown in the extreme west and extreme east of the total range. Whilst differences in bill size still seem to distinguish the two upper Guinea forms *sanguineus* and *coccineus*, I find the differences in bill size elsewhere very unsatisfactory characters despite the great range of variation between the smallest and largest birds. There is complete intergradation between them, and in particular it seems quite impossible to separate satisfactorily *rothschildi* from *ostrinus*. Until field work provides some more convincing grounds for considering that taxonomic significance should be accorded to these variations, I prefer to treat both the large *frommi* and *rothschildi* as synonyms of *ostrinus* and *vincenti* as a synonym of *minor*. I note that whilst Chapin's arguments in favour of an ecological separation and different diet being related to bill size in the lower Guinea area and its periphery are plausible, they do not provide a satisfactory basis for explaining similar differences in bill size in *minor*.

3 *Estrilda poliopareia* Reichenow

Whilst the other forms of *E. paludicola* are obviously correctly treated as conspecific, the grounds for including *poliopareia* are less certain. The creamy (instead of brown) iris, larger bill, and orange upper tail-coverts suggest that though derived from *paludicola*, it is perhaps better regarded as a full species. The range is remarkably restricted, since it is only known from the region of Agoulerie in the Eastern region of Nigeria, though evidently quite abundant in its single locality.

4 The genera *Granatina* and *Uraeginthus*

Granatina consists of two species which form a clear superspecies with a commonly recurring type of range in the dry areas of south-western and north-eastern Africa. The three blue waxbills which form *Uraeginthus* are also very similar to each other and wholly or virtually allopatric, forming another superspecies. Thus both genera in terms of biogeographical species are monotypic, and such small peculiarities as each shows should be regarded as specific characters, indicating that both genera should be merged with *Estrilda*, as already proposed by Delacour.

5 *Estrilda angolensis* (Linnaeus) and *E. bengala* (Linnaeus)

These two very similar species exhibit two problems, the question of whether or not they are conspecific, and the degree of geographical variation in each.

(a) So far as I can trace, there is no evidence that *angolensis* and *bengala* are ever sympatric, but exactly what happens when the ranges meet is obscure, and I have failed to find any example in collections from such

a critical locality which is plainly an intermediate. In Northern Rhodesia *angolensis* occurs on the Copperbelt and *bengala* in the north-west at Mwinilunga and Kabompo. Efforts to obtain specimens from such an intervening area as Solwezi have been unsuccessful, neither species being found there to date. Both species occur in the Katanga though not apparently sympatrically. As might be expected *bengala* is the more widespread in the Katanga but in the British Museum and at Tervuren I have examined *angolensis* from Bunkeya, the Lufira river and Kilwa on Lake Mweru and both have been reported from the Upemba area. The extension of *angolensis* to the Kasai seems more doubtful. At Tervuren there is a good series of *bengala* from the Kasai, and a bird from Tshishika identified as *angolensis* appears to me to be a female *bengala katangae*. There is, however, a perfectly typical male *angolensis* from Luluabourg. Since *bengala* is well known about Luluabourg one cannot omit the possibility that this male is really an aberrant *bengala* which has lost its crimson cheek patch through some aberration just as a bird with a trace of crimson cheek patch has been collected in Songea far from any *bengala*. In Tanganyika *angolensis* occupies the south-east, north to Dar-es-salaam and west of Dodoma. It then penetrates north in a corridor of dry country to the Masailand track between Handeni and Kondoa Irangi, and sporadically north to Naberera about 100 miles south of Kilimanjaro. *Bengala* occurs in Tanganyika both east and west of these northern *angolensis*. The *bengala* population of coastal Kenya extends to the coastal area of north-east Tanganyika but its southern and western limits are not known. *Bengala* occupies the *Brachystegia* regions of west Tanganyika from Rukwa to Biharamulo and east south of a line Lake Eyasi-Monduli–Meru–Kilimanjaro south to the Kondoa Irangi–Handeni track and across the eastern end of the latter to 40–50 miles NNE of Kilosa. It also occurs at Iringa. Thus where *angolensis* and *bengala* meet in Tanganyika they appear to be ecologically separated in a way which does not apply to them in Northern Rhodesia.

In view of the above it seems wise to continue to treat *bengala* and *angolensis* as specifically distinct although intensive investigation of areas where ranges meet may show that they are in fact conspecific.

(b) Geographical variation in *E. angolensis* is very slight. It has been usual to regard birds from west Angola, Bechuanaland and Barotseland as a paler nominate form, with a darker form, *niassensis*, in the remainder of the range, and a perhaps still paler extreme, *damarensis*, in northern South West Africa. Examination of a large amount of material in the British Museum and the National Museum, Bulawayo, shows that this division is very ill-defined. However, females from west Angola and northern South West Africa have the blue of the underside ending at the breast, whilst elsewhere it extends down the flanks. Two forms, *angolensis* and *niassensis* can be upheld on this character. Bechuanaland birds hitherto placed under *angolensis* agree with *niassensis* on this character.

(c) Geographical variation in *E. bengala* may be summarised as follows:— *E.b. bengala* in the whole of the northern savannas from Senegal to Sudan, Ethiopia, Uganda and west Kenya is rather warm brown above and females have the throat, face, breast and flanks blue. Synonyms are *schoanus* Neumann and *ugandae* Zedlitz. Both individual and seasonal variation mask any closer trinomial divisions.

E.b. ugogoensis Reichenow occupies the range in west and central Tanganyika outlined above; it is like *bengala* but cold greyish-sepia above. The name *ugogoensis* has long been applied to the birds of coastal Kenya and north-east Tanganyika. In fact the type locality, "Seke, Dodoma" is the same as Iseke, Manyoni district, sixty miles WSW of Dodoma. This indicates that *ugogoensis* must be based on the west Tanganyika form, separated by a belt of *angolensis* from the coastal *bengala*. *Kigomaensis* Grant & Praed is a synonym of *ugogoensis*.

E.b. brunneigularis (Mearns) (Kenya highlands east of the rift), and *E.b. littoralis* (van Someren) (coastal and adjacent south-east Kenya to coastal north-east Tanganyika) have females with face and throat brown instead of blue. *Littoralis* is slightly paler than *brunneigularis* and takes the place of *ugogoensis* as the name of the coastal birds.

E.b. katangae (Vincent) is like *ugogoensis* above but males have a more purplish facial patch, and females are very distinct, being buffy brown below with only face and throat blue. It occupies the range in Kasai, Katanga and Northern Rhodesia.

I believe that recognition of these five forms is sufficient to denote the geographical variation.

6 *The genus Lagonosticta*

Delacour united *Lagonosticta* with *Estrilda*, and since then, a number of different views have been expressed as to its recognition, and if recognised, what species should go into it. *Lagonosticta* is best retained as a genus characterised by colour and pattern typical of the Firefinches in the narrow sense (i.e. the species *rufopicta*, *senegala*, *jamesoni*, *rubricata*, *landanae* and *rara*.), much as it is convenient to separate *Malimbus* from *Ploceus* for analogous reasons. If other species are removed from *Estrilda* to *Lagonosticta*, I can see little point in recognising *Lagonosticta*.

7 *Lagonosticta jamesoni* Shelley

Investigation of this species has brought to light a number of features of special interest in showing the varying extent to which its forms are siblings of *L. rubricata* (Lichtenstein). The two species can always be structurally distinguished because of the emargination of the outer primary in *rubricata*, lacking in *jamesoni*. There are four well marked races of *jamesoni*, commented on below.

L.j. jamesoni has a wide range from Zululand and the Transvaal to the Rhodesias, Katanga, Tanganyika and southern Kenya. I cannot distinguish *taruensis* van Someren after examining specimens from Doinyo Erok, Voi and Tsavo which should represent it. Nominate *jamesoni* overlaps nominate *rubricata*, *r. haematocephala* and *r. rhodopareia*, and though it has been called a sibling species, it is in fact quite easily recognised from any of these forms of *rubricata*, being strongly washed with pink on the upper side, and much paler and more rosy pink below.

L.j. ansorgei Neumann occupies the Angola escarpment north to the Congo mouth. Males are dark brown above without any pink wash and the sides of crown are scarlet instead of pink whilst the under side is likewise scarlet. Here it lives with *L. landanae* Sharpe (either conspecific with *rubricata* or a representative species). *Ansorgei* and *landanae* are much more alike than *jamesoni* is to the forms of *rubricata* living with it but

differentiation is easy as *ansorgei* has a blue black bill; *landanae* a pink bill. *Landanae* also has a pink wash on the crown lacking in *ansorgei*. *L.i. fricki* Mearns was originally described as a race of *rubricata* and long believed to be a synonym of the Ethiopian form of *rubricata* until Chapin briefly pointed out that it is in fact a valid form of *jamesoni*. Males of *fricki* are like those of *ansorgei* but a darker more crimson red below. They are virtually inseparable from males of *rubricata rhodopareia* living with them, apart from the lack of wing emargination in *fricki*. Females of *fricki* are, however, considerably darker and more reddish-pink on the throat and breast and have bright red loral and chin spots lacking in *rubricata rhodopareia*. It had been supposed that *fricki* was only known from the original series in Washington from the Gato river. However, once its characters were defined I found in the British Museum 2 males ad., 1 male imm., 4 females: from Yavello, Ethiopia; 1 male imm., 1 female from Boma plateau, S. Sudan; 1 male Mt. Maroto, Uganda; 1 male, 1 female from Gessima R., Laikipia, Kenya; all wrongly identified with *L. rubricata rhodopareia*. *L.j. fricki* thus has a much wider range than was supposed, and is much more a sibling of its *rubricata* counterpart than either of the foregoing.

L. j. virata Bates. Originally described as a race of *rubricata*, and still treated thus by Bannerman in his *Birds of Tropical West Africa*, *virata* proved to have no emargination of the outer primary. Males resemble those of *rubricata polionota* Shelley almost exactly above but are more purplish-red, less crimson below. The female unexpectedly is quite unlike that of *rubricata polionota*, and is like the male of *virata* but slightly duller below. *L. j. virata* is only known from the original series from Mopti, Kulikoro and Fiko in Mali (British Museum) and one from Bamako in the Zoological Museum, Copenhagen, which I have examined. It is unlikely to be confined to this area of Mali and should be sought for elsewhere in West Africa.

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Geographical variation in *Batis pririt* (Vieillot)

by WALTER J. LAWSON

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The Pririt Batis *Batis pririt* (Vieillot) is a small, attractive flycatcher endemic to southern Africa, which occurs in the arid and semi-arid districts of western, central and southern South Africa. It is closely allied to the allopatric *Batis molitor*, a species of the moister treeveld savannas